PATENT   MS307136.01/MSFTP615US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of:	
Applicant(s): Henricus Johannes Maria Meijer, *et al.*	Examiner: Kimberly M. Lovel
Serial No: 10/809,171	Art Unit: 2167
Filing Date: March 25, 2004	

Title: SYSTEMS AND METHODS THAT TRANSFORM CONSTRUCTS FROM DOMAIN TO DOMAIN

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

Appellants' representative submits this brief in connection with an appeal of the above-identified patent application. If any additional fees are due and/or are not covered by the credit card, the Commissioner is authorized to charge such fees to Deposit Account No. 50-1063 [MSFTP615US].

I.   Real Party in Interest (37 C.F.R. §41.37(c)(1)(i))

        The real party in interest in the present appeal is Microsoft Corporation, the
assignee of the subject application.

II.   Related Appeals and Interferences (37 C.F.R. §41.37(c)(1)(ii))

        Appellants, appellants' legal representative, and/or the assignee of the subject
application are not aware of any appeals or interferences which may be related to, will
directly affect, or be directly affected by or have a bearing on the Board's decision in the
pending appeal.

III.   Status of Claims (37 C.F.R. §41.37(c)(1)(iii))

        Claims 1-28 and 30-31 stand rejected by the Examiner. Claim 29 is canceled.
The rejection of claims 1-28 and 30-31 is being appealed.

IV.   Status of Amendments (37 C.F.R. §41.37(c)(1)(iv))

        The claim amendments made in the Final Office Action Reply have been entered
in response to the Final Office Action dated February 22, 2007.

V.   Summary of Claimed Subject Matter (37 C.F.R. §41.37(c)(1)(v))

        A.   Independent Claim 1

        Independent claim 1 recites a system that maps a first construct of a domain to a
second construct of another domain. The system comprises a computer-readable storage
medium, comprising the following computer-executable components. (*See e.g.,* page 7,
lines 20-31). The components are a bank that stores at least one of a set of suppress field
labels and a set of introduce field labels. (*See e.g.,* page 17, lines 9-13 and Fig. 4, ref. no.
430). And, a mapping component that utilizes at least one of a suppress field label and an
introduce field label to facilitate mapping the first construct of a domain to the second
construct of another domain. (*See e.g.,* page 7, lines 3-5, pg. 8, lines 1-9 and Fig. 1, ref.
no. 110, pg. 8, line 28-pg. 9, line 5 and pg. 9, line 22-pg. 10, line 28 and Fig. 2, ref. no.
210).

B.   Independent Claim 13

Independent claim 13 recites a method that transforms constructs between domains, comprising: receiving a construct. (*See e.g.,* page 20, lines 1-7, pg. 20, lines 21-22 and pg. 21, lines 3-4). Then, obtaining a mapping associated with the construct. (*See e.g.,* page 20, lines 8-14, pg. 20, lines 24-25 and pg. 21, lines 5-6). Finally, employing the mapping to transform the construct of a first domain to a second construct of another domain. (*See e.g.,* page 20, lines 15-20 and Fig. 6, ref. nos. 610, 620, 630, pg. 20, lines 27-30 and Fig. 7, ref. nos. 710 and 720, and pg. 21, lines 8-14 and Fig. 8, ref. nos. 810 and 820).

C.   Independent Claim 18

Independent claim 18 recites a method that transforms constructs between domains, comprising: providing a construct to transform between domains. (*See e.g.,* page 20, lines 1-7, pg. 21, lines 15-16 and Fig. 6, ref. nos. 610, 620 and 630). Then, retrieving a mapping that facilitates construct transformation. (*See e.g.,* page 20, lines 8-14, pg. 21, lines 18-20). Finally, utilizing the mapping to transform the construct of a first domain to a second construct of another domain. (*See e.g.,* page 20, lines 15-20, pg. 21, lines 20-23 and Fig. 9, ref. nos. 910 and 920).

D.   Independent Claim 30

Independent claim 30 recites a computer readable medium storing computer executable components to facilitate transforming constructs between domains. (*See e.g.,* page 7, lines 20-31). The computer readable medium comprises a component that receives a construct to transform between domains. (*See e.g.,* page 20, lines 1-7, pg. 20, lines 21-22 and pg. 21, lines 3-4). A component that provides a mapping that facilitates construct transformation. (*See e.g.,* page 20, lines 8-14, pg. 20, lines 24-25 and pg. 21, lines 5-6). And, a component that utilizes the mapping to transform the construct of a domain to a second construct of another domain. (*See e.g.,* page 20, lines 15-20 and Fig. 6, ref. nos. 610, 620, 630, pg. 20, lines 27-30 and Fig. 7, ref. nos. 710 and 720, and pg. 21, lines 8-14 and Fig. 8, ref. nos. 810 and 820).

E.   Independent Claim 31

Independent claim 31 recites a construct transformation system between domains comprising a computer-readable storage medium. (*See e.g.,* page 7, lines 20-31). The system comprises a computer-executable means for determining a mapping between constructs. (*See e.g.,* page 20, lines 1-14, pg. 21, lines 15-20 and Fig. 6, ref. nos. 610, 620 and 630). And, a computer-executable means for employing the mapping to transform a first construct of a domain to a second construct of another domain. (*See e.g.,* page 20, lines 15-20, pg. 21, lines 20-23 and Fig. 9, ref. nos. 910 and 920).

VI.   Grounds of Rejection to be Reviewed (37 C.F.R. §41.37(c)(1)(vi))

A.   Whether claims 1-6, 12-16, 18-19, 26 and 29-31 are unpatentable under 35 U.S.C. §102(e) as being anticipated by Charlet, *et al.* (US 2005/0160108).

B.   Whether claims 7-8, 10 and 20 are unpatentable under 35 U.S.C. §103(a) as being obvious over Charlet *et al.* in view of Dorsett, Jr. (US 6,658,429).

C.   Whether claims 11 and 21-23 are unpatentable under 35 U.S.C. §103(a) as being obvious over Charlet *et al.* in view of Russell et al. (US 2004/0039964).

D.   Whether claims 9, 17, 24, 25, 27 and 28 are unpatentable under 35 U.S.C. §103(a) as being obvious over Charlet *et al.* in view of Meltzer et al. (US 6,125,391).

VII.   Argument (37 C.F.R. §41.37(c)(1)(vii))

A.   Rejection of Claims 1-6, 12-16, 18-19, 26 and 29-31 Under 35 U.S.C. §102(e)

Claims 1-6, 12-16, 18-19, 26 and 29-31 stand rejected under 35 U.S.C. §102(e) as being anticipated by Charlet, *et al.* (US 2005/0160108). Reversal of this rejection is requested for at least the following reasons. Charlet *et al.* fails to disclose all limitations of the claimed subject matter.

A single prior art reference anticipates a patent claim only if it *expressly or inherently describes each and every limitation set forth in the patent claim*. *Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 63 USPQ2d 1597 (Fed. Cir. 2002); *See Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). *The identical invention must be shown in as complete detail as is contained in the ... claim.* *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989) (emphasis added).

The claimed subject matter relates to a system and method that transforms constructs of different type-systems, from one domain to another domain. This enables various components in different domains to seamlessly share tasks or encapsulated business oriented information, as per the needs of the specific domain application. To that end, claim 1 recites a system that maps a first construct of a domain to a second construct of another domain, comprising: *a bank that stores at least one of a set of suppress field labels and a set of introduce field labels; and a mapping component that utilizes at least one of a suppress field label and an introduce field label **to facilitate mapping the first construct of a domain to the second construct of another domain**.* (claims 13, 18, 29, 30 and 31 recite similar features). Charlet *et al.* fails to disclose such claimed aspects.

Charlet *et al.* describes a method of passing data between an XML document and a hierarchical database, both of which have pre-defined matching hierarchical structures. With more specificity, the indexed raw data from an XML document is transferred to the database or vice-versa, using the representations in the metadata schema for validation. The metadata here, consists of the XSD schema of the document and a database schema, thereby allowing the data of one hierarchical structure to be mapped to another hierarchical structure for the sake of transferring data under a categorized head or element name of a sub-tree.

In contrast, the claimed subject matter relates to systems and methods that transform constructs. For example, the systems and methods can be utilized to transform a construct from one domain or space to a construct in another domain or space. For example, a construct in the object domain (*e.g.*, an object oriented based artifact) can be

mapped to a construct in the markup domain (*e.g.*, a markup language based artifact) or *vice versa*. In another example, these constructs (object and/or markup) can be transformed to and/or from constructs in the user interface (UI) domain and/or relational domain. Moreover, such transformation can include one or more of the following mappings: transforming a named construct to an anonymous construct; transforming a named construct to a named construct; transforming an anonymous construct to a named construct; and transforming an anonymous construct to an anonymous construct.

Furthermore, structural mismatch when transforming between named and anonymous constructs of different domains is addressed. The schema bank which is be utilized to store mediating schema can be employed to generate an intermediate structure when serializing and/or deserializing constructs. The set(s) of introduce or suppress field labels is utilized to suppress the addition, modification and/or removal of constructs such that the construct can be returned to its structure of the original domain, if desired. (*See* pg. 3, lines 8-18).

The lines cited by the Examiner in Charlet *et al.* teach that the mapping module 206 sends the XML document to the hierarchical database, wherein the XML document is then configured for storage in the hierarchical database. Further, an input module can then retrieve the XML document from the hierarchical database in response to a query. (*See* pg. 6, paragraphs [0066]-[0069]). Thus, Charlet et al. is not transforming constructs of different type-systems from one domain to another, but is merely sending an XML document for storage in a database, for later retrieval.

In contrast, appellants' claimed subject matter discloses a mapping component that can introduce and/or suppress entities within a construct's structure to facilitate construct transformation. For example, a first construct can include indicia that is not utilized in a second construct. In these instances, the indicia can be suppressed and/or modified by the mapping component before, during and/or after transforming to the second construct. In addition, such information, although suppressed in the second construct, can be hidden, but retained such that if the second construct is transformed back to the first construct, the original information can be preserved or if the second construct is transformed to a third construct, the original information can be suitably utilized (*e.g.*, hidden, modified and visible). (*See* pg. 8, line 28-pg. 9, line 5).

Charlet *et al.* merely discloses the transfer of raw data from an XML document classified under field names to a hierarchical database. Charlet *et al.* does not disclose a system of transforming a construct from one domain or space to a construct in another domain or space, such as, a construct in the object domain (*e.g.*, an object oriented based artifact) mapped to a construct in the markup domain (*e.g.*, a markup language based artifact). Accordingly, Charlet *et al.* is silent with respect to ... *a mapping component that utilizes at least one of a suppress field label and an introduce field label **to facilitate mapping the first construct of a domain to the second construct of another domain***.

Thus, it is submitted that Charlet *et al.* does not teach or suggest the elements upon which the Examiner relies, and as a consequence Charlet *et al.* does not teach the identical subject matter in as complete detail as is contained in independent claims 1, 13, 18, 29, 30 and 31 (and the claims that depend there from). Accordingly, this rejection should be withdrawn.

B.   Rejection of Claims 7-8, 10 and 20 Under 35 U.S.C. §103(a)

Claims 7-8, 10 and 20 stand rejected under 35 U.S.C. §103(a) as being obvious over Charlet *et al.* in view of Dorsett, Jr. (US 6,658,429). It is respectfully submitted that this rejection should be withdrawn for the following reasons. Charlet *et al.* and Dorsett, Jr. *et al.*, individually or in combination, do not teach or suggest each and every element set forth in the subject claims. In particular, Dorsett, Jr. *et al.* does not make up for the aforementioned deficiencies of Charlet *et al.* with respect to independent claims 1 and 18 (which claims 7-8, 10 and 20 respectively depend there from). Thus, the claimed subject matter as recited in claims 7-8, 10 and 20 is not obvious over the combination of Charlet *et al.* and Dorsett, Jr. *et al.*, and withdrawal of this rejection is requested.

C.   <u>**Rejection of Claims 11 and 21-23 Under 35 U.S.C. §103(a)**</u>

Claims 11 and 21-23 stand rejected under 35 U.S.C. §103(a) as being obvious over Charlet *et al.* in view of Russell et al. (US 2004/0039964). It is respectfully submitted that this rejection should be withdrawn for the following reasons. Charlet *et al.* and Russell *et al.*, individually or in combination, do not teach or suggest each and every element set forth in the subject claims. In particular, Russell *et al.* does not make up for the aforementioned deficiencies of Charlet *et al.* with respect to independent claims 1 and 18 (which claims 11 and 21-23 respectively depend there from). Thus, the claimed subject matter as recited in claims 11 and 21-23 is not obvious over the combination of Charlet *et al.* and Russell *et al.*, and withdrawal of this rejection is requested.

D.   <u>**Rejection of Claims 9, 17, 24, 25, 27 and 28 Under 35 U.S.C. §103(a)**</u>

Claims 9, 17, 24, 25, 27 and 28 stand rejected under 35 U.S.C. §103(a) as being obvious over Charlet *et al.* in view of Meltzer et al. (US 6,125,391). It is respectfully submitted that this rejection should be withdrawn for the following reasons. Charlet *et al.* and Meltzer *et al.*, individually or in combination, do not teach or suggest each and every element set forth in the subject claims. In particular, Meltzer *et al.* does not make up for the aforementioned deficiencies of Charlet *et al.* with respect to independent claims 1, 13 and 18 (which claims 9, 17, 24, 25, 27 and 28 respectively depend there from). Thus, the claimed subject matter as recited in claims 9, 17, 24, 25, 27 and 28 is not obvious over the combination of Charlet *et al.* and Meltzer *et al.*, and withdrawal of this rejection is requested.

E.   **Conclusion**

For at least the above reasons, the claims currently under consideration are believed to be patentable over the cited references. Accordingly, it is respectfully requested that the rejections of claims 1-28 and 30-31 be reversed.

If any additional fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063[MSFTP615US].

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Respectfully submitted,
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VIII.   Claims Appendix (37 C.F.R. §41.37(c)(1)(viii))

1.   A system that maps a first construct of a domain to a second construct of another domain comprising a computer-readable storage medium, comprising the following computer-executable components:

      a bank that stores at least one of a set of suppress field labels and a set of introduce field labels; and

      a mapping component that utilizes at least one of a suppress field label and an introduce field label to facilitate mapping the first construct of a domain to the second construct of another domain.

2.   The system of claim 1, wherein the first construct is a named or an anonymous construct and the second construct is a named or an anonymous construct, and the mapping comprises one of transforming the first named construct to the second named construct; the first named construct to the second anonymous construct; the first anonymous construct to the second named construct; and the first anonymous construct to the second anonymous construct.

3.   The system of claim 1, wherein the first construct is one of a markup language construct, an object oriented language construct, a relational construct and a user interface construct, and the second construct is one of a markup language construct, an object oriented language construct, a relational construct and a user interface construct.

4.   The system of claim 3, wherein the markup language construct is one of an XML and a CLR construct, the object oriented language construct is one of a C++, a C#, a Java and a Visual Basic construct, and the relational construct is a SQL construct.

5.   The system of claim 1, wherein the mapping is isomorphic.

6.   The system of claim 1, further comprising a mapping file that provides one or more of a default mapping, a user customized mapping, and a mediating schema that facilitates mapping the first construct to the second construct.

7.   The system of claim 6, wherein the user customized mapping defines a construct structure to suppress and introduce labels.

8.   The system of claim 6, wherein the user customized mapping comprises at least one of an annotating type and an annotating schema.

9.   The system of claim 6, wherein the default mapping is based on one or more of a heuristic, an inference, a probability and machine learning.

10.   The system of claim 6, wherein the mediating schema transforms constructs to an intermediate representation at least one of before, during and after transforming the first construct.

11.   The system of claim 1, wherein the first construct is a complex or a simple construct and the second construct is a complex or a simple construct.

12.   The system of claim 1, wherein the mapping component performs at least one of the following: serializes an instance of the first construct to the second construct; deserializes an instance of the first construct to the second construct; persists the first construct to the second construct; restores the first construct from the second construct; publishes the first construct in the second construct; shreds the first construct from the second construct; and binds the first construct to the second construct.

13.   A method that transforms constructs between domains, comprising:

    receiving a construct;

    obtaining a mapping associated with the construct; and

    employing the mapping to transform the construct of a first domain to a second construct of another domain.

14.   The method of claim 13, further comprising transforming one of a named construct to a different named construct; a named construct to an anonymous construct; an anonymous construct to a different anonymous construct; and an anonymous construct to a named construct.

15.   The method of claim 13, wherein the transformation is lossless.

16.   The method of claim 13, wherein the mapping comprises one or more of a suppress field label, an introduce field label, a default mapping, a user customized mapping, and a mediating schema.

17.   The method of claim 13, wherein the mapping is based on one or more of a heuristic, an inference, a probability and machine learning.

18.   A method that transforms constructs between domains, comprising:

    providing a construct to transform between domains;

    retrieving a mapping that facilitates construct transformation; and

    utilizing the mapping to transform the construct of a first domain to a second construct of another domain.

19.   The method of claim 18, wherein the mapping comprises at least one of a suppress field label, an introduce field label, a default mapping, a user customized mapping, and a mediating schema.

20.   The method of claim 19, wherein the mediating schema transforms constructs to an intermediate representation at least one of before, during and after transforming the construct.

21.   The method of claim 18, wherein the received construct is a complex or a simple construct and the transformed construct is a complex or a simple construct.

22.   The method of claim 18, wherein the transformation comprises serializing a markup construct to an object construct.

23.   The method of claim 18, wherein the transformation comprises deserializing an object construct to a markup construct.

24.   The method of claim 18, wherein the transformation comprises persisting an object construct to a relational construct.

25.   The method of claim 18, wherein the transformation comprises restoring an object construct from a relational construct.

26.   The method of claim 18, wherein the transformation comprises publishing a markup construct in a relational construct.

27.   The method of claim 18, wherein the transformation comprises shredding a relational construct to markup construct.

28.   The method of claim 18, wherein the transformation comprises binding the received construct to a user interface, the received construct is one of an object construct, a markup construct, a relational construct and a disparate user interface construct.

29.   (Canceled)

30.   A computer readable medium storing computer executable components to facilitate transforming constructs between domains, comprising:

a component that receives a construct to transform between domains;

a component that provides a mapping that facilitates construct transformation; and

a component that utilizes the mapping to transform the construct of a domain to a second construct of another domain.

31.   A construct transformation system between domains comprising a computer-readable storage medium, comprising:

computer-executable means for determining a mapping between constructs; and

computer-executable means for employing the mapping to transform a first construct of a domain to a second construct of another domain.

IX.   Evidence Appendix (37 C.F.R. §41.37(c)(1)(ix))

None.

X.   Related Proceedings Appendix (37 C.F.R. §41.37(c)(1)(x))

None.